SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1231.—Vol. XXIX.] LONDON, SATURDAY, MARCH 26, 1859. [WITH JOURNAL] STAMPED.... SIXPENCE. UNSTAMPED. FIVEPENCE.

NORTH COUNTRY v. WELSH STEAM COAL.

THE ADMIRALTY REPORT.

The question as to the relative merits of North Country and Welsh coal for steam purposes is no nearer a solution than ever, although the official reports of Messrs. Miller and Taplin to the Admiralty have been laid before the House of Commons. The position taken by the Welsh some time since in challenging competitive experiments with the two descriptions of coal appeared so fair and straightforward that a feeling very generally arose that they really believed that their coal was superior to that of their rivals—the North countrymen; and it is with sincere regret that we have to record that upon the first opportunity for an unbiassed opinion being recorded the Welshmen should have so far forgotten their interest as to permit unfair advantages to be taken, with a view to put forward their own produce in a better light than that to which its intrinsic merits entitle it, since the evident effect of this proceeding must be not only to throw suspicion upon the results recorded as having been obtained with Welsh coal, but also to excite general distrust as to whether the Welsh coal is justly entitled even to that share of consideration which has generally been accorded to it. Under these circumstances, we shall take the Newcastle experiments as the most reliable, the Admiralty officials being of opinion that there was a more evident desire for the truth to be arrived at on the part of the Newcastle Association than on the part of the Cardiff Association.

Description of coal experimented upon.	Area of fire grate	Water p. 1 lb. of coal.	Water evap. p. hour	Remarks.
	feet.	lbs.	cub.ft.	
West Hartley, sent from colliery	22	9·82	95·38	Air passages open and smoke apparently wholly prevented.
Buddle's West Hartley, from Woolwich Dockyard	22	10·25	91·64	
	22	9·65	76·41	
	22	9·97	74·55	
	22	9·89	80·21	
Buddle's Hartley, direct from colliery..	22	9·21	86·36	Air passages open. No smoke visible.
Hartley Small, direct from colliery ..	22	9·65	87·21	
West Hartley, direct from two other collieries in district	22	10·21	77·46	
	22	9·92	84·95	
West Hartley, same as in No. 1	18	10·44	70·57	Air passages open. Smoke compl. prevented
Welsh	22	11·16	95·38	Smoke issuing from chim. very light upon firing, at other times not visible. Compare with 1, 2, 3, & 5.
Powell's Duffryn.....	22	11·12	82·22	
Welsh	22	10·30	75·42	
Blaengwarn Merthyr.....	22	11·10	72·07	
Sent from Woolwich Dockyard	22	10·79	80·07	
Welsh, Powell's Duffryn, small	22	9·97	31·54	
Welsh, Powell's Duffryn	18	9·93	69·11	Comparative with 6
West Hartley	22	8·73	80·77	Air passages closed. Smoke dense and black.
	42	8·88	97·17	Air passages open Apparatus appear very effective. Vapor from chim. scarcely percept. Air passages open.
West Hartley, direct from colliery....	42	8·89	93·11	
	42	8·77	98·16	
	33	9·18	89·39	
Lambton's Wallsend, direct from colliery	22	11·19	61·80	
West Hartley, direct from colliery....	22	10·99	79·56	
North Country, & West Hartley discr.	22	10·39	87·16	
North Country, and from Woolwich Dockyard.....	22	9·84	77·06	Air passages open, and no smoke issuing from top of boiler chimney, except when Welsh was burnt, and then the air passages were closed.
Welsh, Powell's Duffryn	22	11·14	86·89	
Welsh, Blaengwarn Merthyr, from Woolwich Dockyard.....	22	10·39	75·85	
North Country, small	22	9·65	57·21	
Welsh small	22	9·97	31·54	
North Country	18	10·44	70·57	
Welsh	18	9·93	69·11	
North Country, average of Nos. 18, 19, 22, 24	—	10·08	73·00	
Welsh, average of Nos. 20, 21, 23, 25..	—	10·35	65·84	
North Country	22	8·73	89·87	
North Country, West Hartley district.	18	10·61	53·86	
West Hartley, direct from colliery, average of two experiments	22	9·58	86·29	Air passages open. No smoke.
West Hartley, direct from colliery....	22	7·93	81·64	Air passages closed. Smoke dense and black.
Welsh, Blaengwarn Methyr, from Woolwich Dockyard	22	10·16	77·05	Air passages closed. Smoke light brown when firing.
West Hartley, direct from colliery....	22	9·09	106·47	Air passages open. Blast pipe used. No smoke.

e first series of experiments were repetitional, the second comparative. No. 3 was e to determine the evaporative values when this coal was obtained direct from the ry. No. 4 was to ascertain the evaporative value of the smaller particles into h North Country coal may be broken, from shipment or other causes. No. 5 was to ver whether there were differences in the evaporative values of coal for the col- s in the same district. No. 12 was made to test the evaporative values of the small into which the larger parts fall from exposure to weather, or being kept on shore y period of time. No. 14 was made to observe the quantity of smoke issuing from himney, with all the air passages closed, and with a view of determining the eva- ive value of the coals under such circumstances, compared with what it was when ir-passages were open. No. 15 was to test the apparatus with long fires. No. 16 made to test the apparatus when burning bituminous or highly smoky coal. No. 17 o test the consumption of smoke, very heavy charges being put on the fire at inter- and at the heaviest times but little smoke was visible; for the first hour the firing t the rate of 55¼ lbs. per square foot, and for the next hour averaged 40 lbs. per foot. No. 26 was made to observe the quantity of smoke issuing from the chim- ey, and also to ascertain the evaporative value of the coal when making smoke, and not making smoke. No. 27 was a repetitional experiment with slow combustion, with the damper in the chimney closed, so as to reduce the area to 250 square inches. 9 was to test the evaporative value of the coal when making smoke. In No. 31 a pipe 1 in. in diameter, through which a jet of 20 lbs. steam issued, was used to a forced draught in the chimney, but no smoke visible at the top of the chimney.

ith respect to the general course pursued, and the conclusions arrived the Newcastle experiments, Messrs. Miller and Taplin report that agreed that, for the first part of each experiment, the boiler was to ed up to a certain height of the water-gauge glass, the coals weighed ngle hundredweights as they were to be put on the fires, the fires d, and, when the steam was up, the state of the fires and the quan- f fuel on the grates observed and noted. That for the second part of experiment, the coals to be used in the fires during the five hours nance of the experiment were to be weighed as in getting up steam; res kept in an equable state of combustion and thickness, the thick- o vary according to the description of coal; thicker fires to be kept North Country coal, and thinner fires with Welsh coal; and that the were, at the end of the experiment, to be in the same state with the quantity of fuel on the grates as when the experiment began. The to be evaporated during the experiment was to be measured in a before being let into the boiler, and kept in the boiler at an uniform of the water-gauge glass. That for the third part of each experi- no additional fuel was to be put on the fires after the five hours on of the experiment had elapsed, but that a sufficient quantity of was to be let into the boiler, to be evaporated by the remaining fuel grates. It was also determined that the furnaces, flues, and tubes of the boiler were to be thoroughly cleaned and swept out before each experiment was to be made. The description of coal selected for the repetitional and comparative experiments with North Country coal was to be obtained from the original West Hartley pits, and that for the comparative experiments with Welsh coal should be Powell's Dufferin; as the association, in anticipation of our trials, had obtained part of a cargo of this description of coal, which, with other cargoes, had been sent from Wales, for the purpose of coaling the *Hudson*, a large steam-ship, built by Messrs. Palmer and Co., of Jarrow, for the German Lloyd's Company, for the purpose of navigating her to Bremen, and which is verified by the certificate attached to the report. The experimental boiler is a marine multitubular one, 10 ft. 3 in. in length, 7 ft. 6 in. in width, and 10 ft. in height, having two furnaces 3 ft. in width and 3 ft. 6 in. in height, varying in lengths according to the experiments, and 135 tubes 3 in. in diameter and 5 ft. 6 in. in length. In the furnaces the dead plates are 1 ft. 5 in. in height from the bottoms of the ash-pits, and the fire-bars 1¼ in. in thickness, with ½-in. air-spaces between the inclination of the fire-grates to the bridges, being ¾ in. to the foot, the fire-bars in all the experiments terminating against brick bridges, which were about 1 ft. in height from the fire-bars. Upon this boiler, at the top of the uptake and the bottom of the chimney, is placed an oval vessel filled with tubes, through which the heated vapour from the boiler tubes passed before entering the chimney, and which may be called a water heater, as all the feed water to the boiler passed through this vessel. This heater is 5 ft. 4 in. in height, 5 ft. 8 in. in larger diameter, and 3 ft. 8 in. in smaller diameter, having 76 tubes, 4 in. in diameter and 4 ft. in length—the heating surface in the boiler being about 750 square feet, and that of the heater about 320 square feet.

From the average results obtained and their general observations they came to the conclusions — 1. That when the smoke from North Country coal is consumed, its evaporative value is nearly equal to that of Welsh coal, while its rapidity of combustion is greater, and, therefore, that it is capable of generating a larger quantity of steam in a given time.—2. That from the harder nature of the North Country coal, it is less liable to be broken up from motion than Welsh coal, and from the large heaps which had been exposed at the pits' mouths for nearly twelve months, which we saw at some of the collieries, without exhibiting any symptoms of falling into small particles, thereby showing that atmospheric changes had but little effect upon it; and, therefore, for these reasons, it is better adapted for store or conveyance to distant parts of the world than Welsh coal, which, from daily experience is found not only to be greatly reduced in size by motion, but to be reduced to dust when exposed to the changes of atmosphere in stores, &c. These comparisons are only made upon the supposition that the smoke from North Country coal may be reduced to the same minimum as that which may arise from Welsh coal, or be entirely prevented by Mr. Williams's, or some effective apparatus for this purpose.—3. That from our experiments at Elswick, and our observations elsewhere, it is possible to consume the smoke arising from North Country coal by the use of Mr. Williams's apparatus, and by the modifications of it as introduced by the association to some of the collieries in this part of the country, and also fitted on board the *Export* steam-tug, and now being introduced generally into the steam-tugs of this port; for in the experimental boiler smoke was prevented, when the firing was pushed to a greater extent than 30 lbs. to the sq. ft. of fire-grate; in one instance, on July 31, the firing having been for one half-hour at the rate of 55½ lbs. to the sq. ft., with but very light smoke, and for the next hour at the rate of 40 lbs. per sq. ft., without any smoke, and again on August 10, when a steam-jet was used to force the draught, the firing throughout the experiment was nearly 36 lbs. to the square foot, the jet being produced by 20 lbs. of steam.

Turning to the report of Messrs. Taplin and Lynn upon the Cardiff experiments, we find there is a boiler of the ordinary class used for marine purposes, in shape and proportions similar to those used in her Majesty's service: its principal dimensions are—9 ft. 9 in. long; 12 ft. 2¼ in. broad; and 11 ft. 6 in. high (extreme); three furnaces each 5 ft. 2 in. long, 3 ft. 3 in. wide; distance between the fire-bars for air, ⅝ in.; containing 50·5 sq. ft. of grate surface, 216 tubes each 3¼ in. outside drain, and 6 ft. 3 in long. The coal to be experimented on was a mixture in nearly equal quantities of Nixon's Duffryn, Powell's Duffryn, and Thomas's Aberaman, Aberdare Coal Company's, Blaengwarn, Haynes's, Lewis's, Nixon's, and Fforch Ammon Merthyr. The results of the experiments at Cardiff make it appear that while the coal from the South Wales collieries (Aberdare) is comparatively superior both in economic value and rate of evaporation, it is inferior in rate of combustion when burnt under the same conditions as to fire-bar surface and time; or, in other words, the rate of combustion in pounds of coal burnt per square foot of fire-bar surface per hour is not so high with Aberdare as with Hartley coal.

NEW METHOD OF PURIFYING COAL.

The separation of coal from its impurities, by immersing it in a fluid of specific gravity, is, we believe, a novel process. Mineral or pit coal is very rarely, if ever, found in a state of absolute purity, but is usually intermixed with some other mineral or metallic substances, which are not only incombustible, but are more or less injurious in the many metallurgical and other manufacturing processes in which pit coal is employed, for not only is the quantity of combustible matter in a given weight of raw coal usually reduced by the presence of lime, clay, silica, shale, &c., but these incombustible substances having to be brought up to the same high temperature as the rest of the materials in the furnace, absord a portion of the heat that might, but for their presence, have been usefully employed. These substances, therefore, effect economically the value of the coal, but the almost invariable presence in coal of pyrites or bisulphide of iron, effects chemically the value of the coal to a very great extent in operations such as the smelting of iron ores, and the after process of that manufacture, for the commercial value of the iron product is greatly modified by the amount of the injurious mineral present in the coal employed; it is, therefore, desirable to separate as far as practicable, all the different earthy or mineral substances associated with pit coal. Attempts have been made to separate the impurities by a sort of washing operation, in which currents of water are caused to carry and deposit the matters operated upon in different strata, or to different parts of the apparatus used. If we take a tall glass or other cylinder filled with water or other fluid, and drop into it at the same moment several different sized fragments of pure coal heavier than the water or other fluid, the several pieces will be seen to descend at different velocities, notwithstanding they are of like specific gravity, dependent on their shapes and on their size, and also on the relative surface resistance opposed by the fluid to their descending motion. Again, if these fragments or pieces were carried up or along by currents of water or other fluid they would obey the same law, and would not all be taken to the same spot, but be deposited at distances varying with the most minute difference in their exterior form as with their cubic contents, the small thin fragments being carried beyond the larger or more cubic forms. It follows that if this law of resistance of fluids causes a separation of the fragments or pieces of coal of like specific gravity, it will do so with other matters combined or mixed with coal and with the pieces of coal more or less impregnated or combined with impurities, such as pyrites, and hence when it is attempted to separate the purer coal from the less pure coal and from the separated impurities, they being of different specific gravities and of different sizes, it happens that the separation cannot be practically effected by currents of fluid; therefore, the employment of this principle of the varying resistance of solids of different forms or cubic contents to fluids in motion should be avoided, and the principle consequent on employing fluids of greater specific gravity than that of coal be used, so that the better parts of the coal may float and the less pure coal and the impurities sink. An invention based upon these principles, and which consists in the separation of pyrites, shale, carbonate of lime, silica, and other foreign matters naturally or accidentally intermixed with pit coal, has been patented by Mr. Henry Bessemer, who is already so favourably known from his invention for improving the manufacture of iron. By the immersion of the mixture of coal and other matters in a tank or bath, containing a fluid the specific gravity of which is greater than pure coal and less than the substances to be separated therefrom, every particle of the matter, whatever its bulk may be, thrown into the bath (unless it be of the precise specific gravity of the fluid therein contained) will either float on the surface of the fluid or it will sink to the bottom of the bath, and thus will be effected a complete separation of the coal from the various foreign matters previously in a state of mechanical admixture therewith. The power of flotation of the purer coal on the surface of the fluid is not influenced by the size or the peculiarity in form of the pieces, since masses of one pound in weight may be suspended for any length of time side by side with other fragments not weighing a grain, the gravity of the fluid employed alone effecting its suspension and separation from other substances, without mechanical force or the necessity of any motion of the fluid employed. Although he prefers in carrying his invention into commercial operation that certain mechanical appliances should be employed in order more conveniently and more economically to carry on the same, it will, therefore, be understood that the floating pieces of coal may be removed from the surface of the fluid by any convenient form of revolving or reciprocating skimming or raking apparatus, and the foreign matters which sink to the bottom of the bath or tank may be dredged out by any suitable arrangement of buckets, or by an endless screw, or preferably, by a revolving or other sluice situated at the lowest part of the tank, the bottom of which should in that case be made funnel shaped, so as to direct the deposited matters to the proper point of exit, by which means the process of separation may be carried on continuously, or, if it be desired, the process may be made intermittent, the tank in that case being emptied from time to time. The fluid used to form the floating bath may consist of any cheap liquid the specific gravity of which is greater than pure coal, and the density of which admits of easy regulation. Metallic solutions when rendered neutral will be found to answer well, and he has found a solution of iron in muriatic acid (when properly diluted to suit the density of the coal operated upon) very suitable for the purpose. He, however, remarks that any metallic or other solutions may be used which have the requisite density, and are not too expensive, especially those met with in commerce as a waste product of some other manufactures, such as the chloride of manganese; the chloride of barium may also be employed, but he prefers to use the chloride of calcium, although he by no means confines himself to that substance. In order to prevent the waste of the fluid the coal should be well drained after leaving the bath, and then have a shower of water to fall over it to thoroughly cleanse the coal, or it may be moved progressively by a screw along a semi-cylindrical trough, in which water circulates in an opposite direction to that in which the coal is moving. The foreign matters separated from the coal may also in like manner be drained and washed from the fluid adhering to their surfaces, the wash water in both cases being allowed to flow into a suitable evaporating pan, where it may be brought up to the required density and be again returned to the bath. This washing of the coal will effectually separate from it the fluid matter forming the bath, the presence of which might act injuriously in some cases in which the coal might be employed, it also prevents that waste of the fluid which would otherwise take place by restoring it to the proper degree of density by evaporation or otherwise; the fluid employed may be filtered from time to time, as occasion may require, and fresh portions added to supply the small but unavoidable waste which would occur. When it is desired to have the coal delivered in a dry state a current of cold or heated air may be used, or the coal may be dried in a centrifugal drying apparatus, arranged so as to discharge the dried coal continuously. The different stages of the process may be carried on independently of each other and in different localities, should it be found expedient to do so; or the entire progress may be carried on in one combined apparatus, and thus constitute a continuous self-acting process. The coal when thus treated and separated from the foreign substances that were mechanically mixed therewith, may at once be used as fuel, or it may be made into artificial fuel by a partial coking thereof in taper or conical wrought-iron retorts, or in other suitable apparatus, the coal being used alone or mixed in any desirable proportion with coal tar, or with pitch obtained in the distillation of coal tar, and with or without lime, the coking process not being carried so far as to deprive the coal of the property of producing an abundant flame when used in a reverberatory or other furnace where flame is desirable; or otherwise, the coal when separated from its impurities may be used alone, or mixed in any desirable proportion with coal tar or pitch, and with or without lime, and be made into oven coke similar to the usual description, in so far as the amount of coking is concerned. It will be found that the coal when separated from pyrites and other foreign matters in the manner herein-before described, is especially suitable for the manufacture of coal gas, and also for those metallurgical operations where the fuel itself, or the products of combustion, are brought in contact with the metal. His claim is, firstly, for the separation of pure or nearly pure pit coal from shale, carbonate of lime, silica, and pyrites, or other earthy and mineral substances, and from coal impregnated or combined therewith, by causing the purer portions of the coal to float on the surface of a fluid of greater specific gravity than pure coal, and less than the less pure coal, and the substances to be separated therefrom; and, secondly, for the washing and separation from purified pit coal and from the earthy and mineral substances obtained therefrom, of any dense fluid that may have been employed in the separation of such coal from mineral or earthy substances, and also the evaporation of such fluid and its restoration to that degree of density as will enable it to be again employed in the purification of coal.

NEW ALMADEN MINING COMPANY.

The condition of the quicksilver mines of California is a matter of the greatest importance for silver making in California, Mexico, Columbia, Peru, and Chile, which of late years have been greatly supplied from that quarter, and much consternation has been created by the announcement that the United States Government has denied the title of the New Almaden Company, and sequestrated the mines. We, therefore, give some few particulars as to these mines, of which hitherto little has been known, because, being in the hands of a few parties, they have been quietly worked.

The claim of the New Almaden Company under the title of Andres Castillero is two-fold. First, for the mine, together with 3000 varas of land (we suppose superficial, and then say as many yards) acquired by denouncement under the mining laws of New Spain and Mexico in Dec., 1845; and second, for two square Spanish leagues of land around the mine under a grant from the Supreme Government of Mexico, in May, 1846.

The New Almaden Company derive their title as purchasers of the Castillero claims, and on the appointment by the United States of land commissioners in California, to examine the old Mexican titles, were presented to them. Under the Federal Constitution of the United States, the United States claim all waste lands as national property, and the proceeds are applied in the reduction of the national debt; by the English Government the waste lands are squandered away, being given to the colonial legislatures. At this time there is land enough available in India to pay off a great part of the national debt. On the acquisition of a new territory the United States appoint a Commissioner of Survey to ascertain the titles of all landholders, so that they may survey and sell the remaining land. This is in the nature of the Enam Commission in India, which has been so much complained of lately. The New Almaden Mining Company's claims were consequently produced before the Commissioners, who held the mining title to be good, but decided that the claim for the two leagues of surrounding land had not ripened into a title at the date of the conquest of California by the Americans.

The claimants put forward as their title to the mine the original denouncement by Castillero, and the appropriate document signed by the Alcalde of the district, Antonio Maria Pino, and two witnesses, and these have given depositions establishing the genuineness of the documents, which are alleged to be in exact conformity with the Ordinance of Mining. These witnesses have proved that all the documents were executed at the date alleged, and no attempt has been made to impeach their veracity.

In the months of April and May, 1846, Castillero was in the city of Mexico, having gone there with specimens of cinnabar taken from the mines. These specimens, together with an application for Government aid to assist him in working and developing his mine, were laid before the Junta de Mineria, or Mining Tribunal and Commission. As the members of the Junta were greatly dependant on silver mining, and had to pay very heavy prices for European quicksilver, the local supplies being small, they naturally felt an interest in this undertaking, the more particularly as the

mineral being found on the Pacific side could be transported by sea to the western coast of Mexico, and thence transported to the mining provinces of Mexico. Our readers who have been concerned in supplying quicksilver for mining operations in Mexico know the great expense of sending supplies by the Gulf, which are subjected to a heavy land transport, or round the Horn to Mazatlan, which is very inconvenient. The Junta therefore, looking upon Castillero's proposal as a national matter, sent the specimens to the College of Mines for assay, whence a report was sent declaring them to be of extraordinary purity and richness. On obtaining this report, Castillero set in a formal petition to the Mexican Government praying for aid. This petition embodied nine propositions, the seventh of which sought the approval by the Supreme Goverment of the mining possession granted him by the local authorities of California, and the eight a grant of two square leagues of the land surrounding the mine. This petition was again sent to the Junta de Mineria, with a recommendation to grant such portions of the petition as were in their jurisdiction, but expressly excepting the application for two square leagues of land, as not being within their jurisdiction. The Junta de Mineria reported, and their report having been approved by the Minister of Justice, was by him laid before the President of the Republic, who ordered the recommendation of the Junta de Mineria to be carried out, and, further, the proper documents to be issued for the grant of the two leagues of land. On May 20, 1846, this approval was communicated by the Minister to the Junta de Minera, and on the same day he communicated to the Minister of Foreign Affairs the approval of the President of the mining grant, and directing the proper order to be issued for the grant of two leagues of land.

On May 23, 1846, Castillo Lanzas (Minister for Foreign Affairs) addressed a communication to the Govenor of California, embodying the above letter, and directing him to place Castillero in possession of the land grant. All these documents have been since duly certified by the Mexican authorities, and certified copies have been issued from the Junta de Mineria, College of Mines, Ministry of Justice, and Ministry of Foreign Affairs, and they are further certified by the United States minister and English consul in Mexico, as having been by them compared with the original documents in the registries. Further, these documents are distinctly referred to in the printed reports of the time made to the Mexican Congress, and in which, in Dec., 1846, is set forth Castillero's discovery. Upon these documents a technical suggestion of the United States Circuit Court, in California, was made—that the papers ought to be authenticated under the Great Seal of Mexico, to entitle them to full legal admission on the files of the Court.

In Dec., 1846, Castillero executed before a notary public in the city of Mexico a ratification of a contract previously made by his agent with certain capitalists for the supply of the funds necessary for working the mine, by way of Avio, under the Mining Ordinances. This contract of Avio's, made at that time, fully recites the documents already referred to. This contract fell to the ground, nor had anything been done at the time of the conquest of Calfornia by the Americans, for the country was in a disturbed state; nor did the mines attract much attention from the Americans till shortly after the gold discoveries, when they were taken up by some American speculators. At that time the Rothschilds had dispatched an agent to California for the gold business, we think Mr. Davidson, from Valparaiso. Among other operations for the house, he secured the contract for the New Almaden Mines—one of the grand strokes of that house; for the firm, although they have frequently held the contract from the Spanish Government for Old Almaden, in Spain—the chief source of supply—have not been always able to maintain it. On the announcement of New Almaden, the mining world of South America was in great expectation, looking to emancipation from the thraldom of the old monopoly, and for quicksilver at a cheap rate, which would give a new impulse to silver mining in Peru and Chile. It seemed, too, as if the Rothschilds had sustained a great blow, and would be in danger of losing on their Almaden contract, whereas by the measure taken by them they rivetted the chain the tighter. They were now able to coerce the Spanish Government into conceding the Almaden contract, by threatening to put down the price of quicksilver against any other bidders, whereby the Spanish Government could only have let on much lower terms, and would have sustained a large loss of revenue. The Rothschilds were likewise able to secure a steady price and a good margin on the sale of quicksilver for mining purposes, of which for so many years they have had the control. Ever since then they have kept the command of the quicksilver market as before, and silver mining has experienced no relief.

Whilst the share of the Rothschilds in the New Almaden operations has been the making of the latter undertaking, it has not been unattended with difficulties, for there is a great jealousy in California of the Rothschilds. Hence the litigation which has arisen, for an ill-feeling has been shown by the Land Commissioners and the United States Supreme Court. It is, however, to be observed that two square leagues of land are not to be thrown away by the United States Government for nothing, and that so many frauds have been practiced by setting up old Spanish grants, supported by forged papers, that it is not surprising suspicion should have been excited in the New Almaden case. Hence a letter of Castillo Lanzas, Minister of Foreign Affairs of Mexico, dated May 28, 1846, and certified in the manner we have described, is alleged to be forged; and among those conversant with Spanish proceedings, as the United States Commissioners are, it is not wonderful doubts should arise, more particularly as the parties have influence in Mexico and money, and with these anything can be done. According to South American practice, such a letter could be forged, and inserted in the records of the Foreign Office, whence certified copies would be taken; and under such circumstances the comparison of the certified copy with the register by the United States minister and English consul would count for nothing. This kind of thing is going on all over South America, and in our own Indian law courts among the native officials. It was but a few months ago that in one of the large cities of Bengal a man was found keeping a forging shop, of which he had bought the good will, and the officers of the Court for generations had been employed in registering titles and deeds either wholly forged or partially mutilated. Bribery goes a long way in Spanish offices, and by the help of it some monstrous claims on the territories of the United States have been vamped up. The temptation to bolster up a good case by supplying its deficiencies is great, and quite in keeping with Californian routine.

The case of the New Almaden Company is that they have proved their titles, and that the Government have not proved them to be forged. The Commissioners, however, decided unfavourably as to the land, and the company having appealed to the Supreme Court of the United States, that Court has gone a step further, and issued a decree prohibiting the company from working the New Almaden Mine. It is said that the only evidence against the company was some letters to and from James Alexander Forbes, Alexander Forbes, and others, which gave a countenance to the Government resistance. James Alexander Forbes was formerly a party interested in these mines, and he, deeming his documents insufficient in law to support the full claim, for which additional papers would be required, urged that such additional papers should be fabricated, so as to complete the title. The company allege that there is no evidence whatever that this advice was followed, or that any such ante-dated or fraudulent papers were ever obtained, or sought to be obtained, by the parties thus addressed. No evidence to that effect was given before the Land Commisioners or the Supreme Court; but it is not unnatural that, as the matter stands, and with a jealous public watching them, the authorities should require very strict proof of title, and throw the parties on every technical expedient for completing their case. This Forbes appeared, however, in Court, to give evidence that he had proposed the fabrication of documents; but in cross examination he admitted that he had no knowledge any such advice of his had been carried out. The interest of Forbes in the company having ceased, it is pretty clear what has been the state of matters between him and his late co-partners, which has led to his doing them this mischief.

Of course the parties interested in the New Almaden Company do not quietly sit down, but are taking every measure to make good their claim. Being strong and influential, they have applied to the United States Secretary of State and the President to employ the influence of the United States Government in obtaining authenticated copies of the document from the Mexican Government, thus playing off the United States Government against itself, or rather against its Californian members; for though the company is weak in California, it is strong in the White House. They have likewise taken the opinion of four eminent members of the New York bar—Messrs. Reverdy Johnson, J. P. Benjamin, J. J. Crittenden, and John A. Rockwell, who declare that the titles are unquestionably genuine, and sufficient to vest in the company the right of property in the mines. They hold out to the company a very good prospect of getting through the litigation, and of establishing their claim to the mines.

We are not aware what is the interest of the Messrs. Rothschilds in this matter, for, according to some accounts, they have no share in the New Almaden Company, but only a contract for taking all the quicksilver produced It is to be observed that whereas the original claim only gave the company a transitory title under the Mining Ordinances of New Spain, they will, on establishing their claim, obtain the fee-simple of the property, as is the case with all old Mexican titles throughout California.

We need scarcely observe that the stoppage of the New Almaden Mines is calculated to be very prejudicial to the mining interests of South America.

ECONOMIC LIFE ASSURANCE SOCIETY.

The annual (which was also the seventh quinquennial) court of this society was held on Saturday last at Radley's Hotel, Bridge-street, Blackfriars,

Mr. R. BIDDULPH in the chair.

The SECRETARY having read the notice convening the meeting,

The CHAIRMAN said that since the last meeting of that society they had lost their Chairman—Mr. Stephenson—who had been so long connected with that office. He was, in fact, one of the original founders, and had taken so deep an interest in its affairs, and had so promoted its prosperity, that his loss must be very greatly felt by them all. He believed it was Mr. Stephenson who drew up the Deed of Settlement under which they were at the present time gathered; and he had ever taken the warmest interest in the association. By his death a vacancy was occasioned at the board, which had been filled up by one of the auditors, Mr. Charrington; and his co-directors had conferred upon him (Mr. Biddulph) the honour of appointing him their Chairman, and had also appointed Mr. Houth the Vice-Chairman. As this was the first quinquennial gathering since the death of another Chairman—Sir Frankland Lewis—it was but due to his memory to express the regret of the directors, and also of the meeting, at the loss which the society had sustained by his death. Before proceeding further with the business of the meeting, he might state that their meeting was of a twofold character—it was their regular annual meeting, and also the quinquennial meeting for the division of profits. He would, therefore, beg to suggest that they should read the account of the receipts and disbursements of the past year, and as those figures occurred again to a great degree in their quinquennial meeting, that as soon as that account had been read they should proceed to elect directors and auditors, and not to raise any discussion upon the annual figures, as they would really come under the notice of the proprietary again in the quinquennial meeting. If his suggestion met with the approbation of the meeting a great deal of time would be saved. and the business of the meeting be quickly got through.

The SECRETARY read the auditors' report for the year 1858, from which the following is condensed:—

Cash in hand Jan. 1, 1858	£ 7,367 15 11		
Assurance premiums, less commissions	172,859 6 2		
Proceeds of investments, less income tax	75,878 6 6	= £256,105 8 7	
Assurance claims	£120,332 11 0		
Annuity claims	1,435 10 0		
Purchase of policies	7,820 1 0		
Re-assurance premium	421 1 0		
Office expenses	7,819 19 10		
Medical fees	266 19 6		
General law charges	247 11 0	138,343 13 4	
Leaving balance credit		£117,761 15 3	

Of which 10,299*l.* 3*s.* 4*d.* was cash in hand, and 107,462*l.* 11*s.* 11*d.* the balance of account. The assurance fund amounted on Dec. 31, 1858, to 1,805,517*l.* 19*s.* 1*d.*, which was an increase on the year of 110,455*l.* 0*s.* 9*d.*

It being proposed from the chair, it was resolved that the accounts as presented be received and entered upon the minutes. A sum of 160*l.* was then voted as a remuneration to the four auditors, who were duly elected.

Mr. DOWNES (the actuary) then read the following statement, which is the result of the investigation made of the company's affairs at the close of the quinquennial period, which terminated Dec. 31, 1858:—"The experience of the society during this period (the third which has elapsed since paying off the shareholders) has realised the expectations of the directors, and they trust the shareholders will share their satisfaction. The progress of the society's business during the last five years will be seen from the following statement:—The proposals for that period were 3136, on which policies were issued to the number of 2578, insuring 1,875,434*l.*, yielding in new premiums 64,684*l.*, making with renewals an income of 883,365*l.* The claims were on 647 policies, for 505,927*l.*, with a bonus of 79,402*l.*, or 18¼ per cent. on the sums assured, the highest bonus being 60 per cent.—2978*l.* on a policy of 5000*l.*—and the lowest 10 per cent. The society now assures, by 7818 policies, the sum of 6,216,647*l.*, and is in receipt of an annual income of 260,000*l.* The invested capital has produced an average interest of 4*l.* 2*s.* 6*d.* per cent. per annum. The assets amount to 1,840,212*l.* 7*s.* 8*d.* The liabilities, consisting of the values of policies and the bonuses thereon, and every other liability, make together a total of 1,517,998*l.* 15*s.* The surplus is the sum of 322,213*l.* 12*s.* 5*d.*; out of this 17,500*l.* will be retained for the payment of annual and conditional bonuses, and for contingencies, and the remaining 304,713*l.* 12*s.* 5*d.*, be distributed as bonus. By the reserve of 17,500*l.* a further bonus of 1*l.* per cent. per annum will be added to the absolute bonus on such policies, now entitled to participate, as shall become claims during the current quinquennial period. To those policies which are not entitled to participate in the present bonus, but on which claims may arise after the payment of the fifth annual premium, a bonus will be added equal in amount to that allotted at the present division to a similar policy on which five annual premiums have been made. The sum of 304,713*l.* will produce reversionary bonuses amounting to 475,354*l.*, yielding a percentage ranging from 6 to 31, or 10¼ on the average on the sums assured; and a percentage ranging from 27 to 143, or 65 on the average, on the premiums received in respect of which the bonus is allotted. The bonus may be taken either—1, in money; 2, in an addition to the sum assured; 3, in a reduction of the premiums for the next five years only; or, 4, in a reduction of the premiums for the remainder of life, as the assured may select. The increase of business of the society has been steadily maintained, while the claims for the quinquennial period have fallen below the estimate. Considering the character and extent of the society's transactions, with regard to the number of lives assured, the sums at risk, and the extent of the invested capital and of the annual income, the condition of the society affords assurance that its future progress will be steady, and free from the risks consequent upon small numbers and limited means. In its present state the society offers every advantage afforded by life assurance; the rates of premium are lower than those of any office which entitle the assured to participate in the profits, and considerably lower than those of any other mutual assurance society; the practice of the society, in its dealings with the assured, has always been guided by liberality: the expenses of management are spread over so large a surface as to form an inconsiderable percentage on the income; and the whole of the profits, in strict accordance with the mutual principle, are divisible among the assured."

The CHAIRMAN, in moving the adoption of the report, submitted that it was of a very satisfactory character, inasmuch as it showed that progress had been made during the last five years. But before he alluded to the foregoing figures he wished to detain the shareholders a few minutes in tracing the progress of the society from its commencement. He was the more desirous of doing so because as that society had now been in existence 35 years, a fair period had elapsed to test the accuracy of their calculations, and, at the same time, to show the positive position in which that association stood. The Economic Society was established in 1823 as a mixed institution, with a subscribed capital of 200,000*l.* of which 50,000*l.* was paid, upon a lower scale of premiums than in any other office at that time in existence, and computed from tables expressly calculated for that company's use. By the Deed of Settlement they were empowered to make a quinquennial division of profits, and not a septennial one, as was then the general rule. There was also a clause in the Deed by which, whenever the funds of the society were capable of bearing it, the proprietors were to be paid off, and the society to become purely mutual. In 1829 their first quinquennial meeting was held, at which time their assurance fund stood at 64,233*l.*, and their annual premiums at 31,840*l.*, but it was then thought advisable that no bonuses should be declared out of that fund. The assurance fund in 1834 amounted to 183,790*l.*, and their premium income to 53,397*l.*, on which occasion 6000*l.* was divided among shareholders, and 18,000*l.* allotted in bonuses, being equivalent to 33,000*l.* in reversion, or 16 per cent. on the premiums. In 1839 their assurance fund was 345,040*l.*, while their premiums were 70,591*l.*; and the shareholders were then given 14,000*l.*, and the assured 42,000*l.* in bonuses, being equal to 77,000*l.* in reversion, or 31 per cent. on the premiums. In 1844 the insurance fund had increased to 673,632*l.*, in fact, it had nearly doubled itself, and a premium income of 90,500*l.*, when the bonuses in cash were 64,755*l.*, equal in reversion to 109,293*l.*, or 33 per cent. upon the premiums. It was then thought advisable to pay off the shareholders in the 50,000*l.* which had been paid, which cost 100,000*l.*—one-half being the amount of subscribed capital, and the other half representing the increased value of the shares. From that time the society had been conducted on purely mutual principles. The next quinquennial meeting took place in 1849, when the assurance fund had reached 908,600*l.*, and the premiums 121,150*l.* On that occasion all the profits went to the policy holders, and the sum set aside for bonuses was 168,794*l.*, or 274,192*l.* in reversion, being 62½ per cent. on the premiums. At the last quinquennial meeting, in 1854, their insurance fund was 1,357,736*l.*, and their premiums 153,036*l.* The sum set apart for bonuses was 255,850*l.*, or 67 per cent. on the premiums. In other words, they had during the 35 years appropriated 549,419*l.* in bonus—being equal to 890,514*l.* in reversion; and during the same period they had paid in liquidation of claims 1,596,500*l.* The assets had been valued in a very proper way, and an ample margin left for fluctuations in the funds. The assets had been minutely examined by the company's auditors, in whom the most implicit confidence was placed; but the directors had thought it advisable that they should themselves be satisfied that securities were held for everything the company possessed, whereupon it was found that satisfactory securities were in their possession for everything that was held by the company. Their money had never been invested in anything at all speculative; and during the last twenty years not one shilling had been lost by bad investments. While the assets had been examined, the liabilities had been valued by their respected actuary, Mr. Downes, who had checked and valued every policy in two different ways. Of course, he (the Chairman) could not pretend that he had gone through every one of those policies, but when the reputation of their respected actuary was considered, his accuracy, and the high position which he occupied, it could not for one moment be doubted but that their liabilities had been equally estimated with the assets. Out of the surplus of 322,213*l.* the sum of 17,500*l.* the directors recommended should be retained for the payment of annual or conditional bonuses, and for contingencies, and that the sum of 304,713*l.* be distributed as bonus. The 17,500*l.* will be appropriated, as on former occasions, in cases where policies become claims. He hoped the assurers well understood the position of the company; but he thought the advantages offered by that society should be more prominently brought before the public. A less premium was charged; the whole profits are quinquennially divided among the assured, and a contingent bonus was also given, which was a practice contrary to a great many other offices; and upon those policies the holders of which may have died before any declaration, and which were not thereby entitled to the advantage, a proportional bonus was declared. He thought it must be most satisfactory to every assurer to know the position in which they now stood, and upon which he must congratulate them. He must, however, call to mind that this prosperity could only be maintained by a constant increase of business; and, therefore, if assurers would recommend, which they could safely, the Economic Assurance Society to their respective friends they would at once confer an advantage upon them, and bring business to the company. The directors were anxious that the assurers should be informed of everything connected with the company's affairs, and they were ready to answer any question that might be put. In conclusion, he would propose that the report now presented be received and adopted.

Mr. DOWNES, in answer to a question from Mr. Spicer, as to the number of new policies that had been opened during the past year, replied that 468 had been issued, and the sum assured by them was 323,670*l.*, and the amount of claims for the last year was 124,481*l.* The total claims, with bonuses thereon, amounted to 148,168*l.*

The CHAIRMAN, in answer to a question, stated that since the formation of the corporation the claims paid amounted to 1,596,500*l.*, and the bonuses thereon to 149,620*l.*, which, with 250,000*l.* in other sources, made within a fractional sum nearly 2,000,000*l.* paid since the establishment of their society.

Capt. WHITEMAN could not but congratulate the society upon having the boldness to insert the paragraph which stated that "the society now assures, by 7818 policies, the sum of 6,216,647*l.*, and is in receipt of an annual income of 260,000*l.*;" and still more satisfactory was the statement that there was an invested security equal to 1,840,000*l.*" Those were statements which ought to be the most satisfactory that could be made to assurers, statements which were, unfortunately, in too many cases suppressed, and in many cases the actual amount of liability was studiously kept out of view, as were also the number of policies issued. It would be well for the security of assurers generally if a law were enacted that compelled the production of such truthful statements in all cases.

The report being seconded by Mr. PUGH, was unanimously received and passed.

It was, then unanimously resolved that the bonus, as recommended by the directors, be divided among the assured.

The retiring directors were then re-elected, with the exception of Mr. Edgar, who retired, Mr. Pascoe Glynn being elected in his place.

A vote of thanks was then unanimously accorded to the Chairman and directors; and on the proposition of Mr. COOPER (the company's local agent at Liverpool), a like compliment was paid to Mr. Downes (the actuary), the secretary, and other officers of the society, when the proceedings terminated.

HOUSEHOLD WORDS.—No. III.

"What becomes of all the pins?"

COPPER AND TIN.—This is another of the series of phrases that may be not inaptly termed "Household Words," for we are certain it has been heard in every house in England—aye, in the United Kingdom. "What becomes of all the pins?" has been asked by many a matron, without the slightest thought or idea of the momentous deductions that may be drawn from the remark. It is well known that pins are generally composed of tin and copper. In considering the question a Cornish miner would say, "Well here, certainly, is one mode of the consumption of produce; I have often wondered what became of all the tin and copper ore." The miner's consideration is by our motto condensed, and that is all. But, Mr. Miner, pray have you ever considered the subject of hooks-and-eyes, eyelet-holes, buttons, buckles, and all the thousand-and-one little nonentities into the formation of which your produce so largely enters? The Scotch have a saying "Many mickles make a muckle." Even so do these trifles of apparel consume your tin and copper to an amount scarcely credible. Go into the manufactories of these goods in Birmingham alone, and you will find hundreds of tons are used every year for these purposes, or others equally evanescent, as they are only the creations of a day, the subjects of fashion, and when once discarded are irretrievably lost. This, however, is not the great consumption that absorbs the tens of thousands of tons your labour raises from the bowels of the earth, by doing so enriching yourself and your country; these are to be found in very different spheres; in contemplating them we shall derive true sources for congratulation on the prospects of these trades for many years to come.

Even to such inferior metals as the subject of our paper treats of the most delicate and important of modern inventions is subservient: without the aid of copper and its congener zinc the electric telegraph would never have displayed its wonders and practical utility. In the construction of immense submarine cables the wires of this metal consume a large supply; but these are trifles compared to other branches of modern consumption, of which our forefathers had never dreamt. Notwithstanding our kitchens have had the formidable array of copper kettles and tin platters banished from their precincts by the substitution of the more cleanly and healthy hollow cast-iron utensils and beautiful earthenware, still the demand for copper and tin is on the increase, and, probably, will increase annually. The locomotive, which has not yet made more than its *debut* in society, draws heavily on the miner's produce, requiring not less than from three to five tons of copper alone in the construction of each. That important aid to Britain's navies—both warlike and commercial—the screw-propeller, in addition to their former vast requirements for sheathing purposes, must now be to a great degree provided with the improved means of locomotion. It has been found that copper and brass are the materials out of which this vitally important adjunct must be formed; each of these for a ship of magnitude demands many tons of metal. The shipping of rival countries, either in arts or arms, if they wish to maintain their relative standing, must become imitators and co-consumers, or leave the glories to be derived from their use to those who adopt them.

When the late war was declared it was feared by many terrorists that the prices of metals would be seriously depressed by the stagnation consequent on all branches of commerce, forgetting that metals are the very sinews of war, and so expensive that but few stocks are kept on hand, even by governments. The mere order of 100,000 muskets requires upwards of 20 tons of brass; the other accoutrements of the soldier demands as much more for their outfit; whilst the supply for artillery and cannon exceeds belief. So that the miner has "two strings to his bow." Recent events have proved these remarks to be correct. The prices of metals although slightly were not seriously affected even when a monetary crisis of unexampled severity had reduced securities of all sorts, as well as the commercial value of all produce to the very lowest limits; thus, either in peace or war the miner may pursue his avocation without fear of loss on his part.

In tin mining the case is peculiar; this mineral is confined to such narrow limits in its production that it becomes virtually a monopoly. If the price of the metal be reduced instant reaction must take place; the cost of bringing round the ores to a marketable state is so great that mines producing those of a low percentage cannot continue working; whilst the works which yield rich tin-stone withhold their produce, or only take out the more valuable stones, leaving, probably, the bulk until a better price can be realised. Cornwall is thus particularly favoured. The only rival in the world hitherto known is the East Indies, where the Dutch have extensive mines at work. The cost of carriage and expenses of one sort and the other preclude the possibility of the British article ever being so reduced as to very materially interfere with the tin mining interest. The trifling quantities procured from Peru and from other quarters are but as a drop in the ocean. The "black sand" found in the gold streams of Australia have not turned out so commercially valuable for tin as was at one time anticipated, notwithstanding they contain a large percentage of gold. The existence of tin in that island is, however, a great fact, and is one that cannot be shelved or overlooked; still, supposing it to be procured in large quantities, is there not a vast consumption, and does not the sphere of that consumption extend hourly; does not all analogy and comparative reason teach us that, be the quantity what it may, there is an outlet for its sale and a demand for further discovery? This continuous and regular rule seems to realise the old axiom—"The more hunters the more hares."

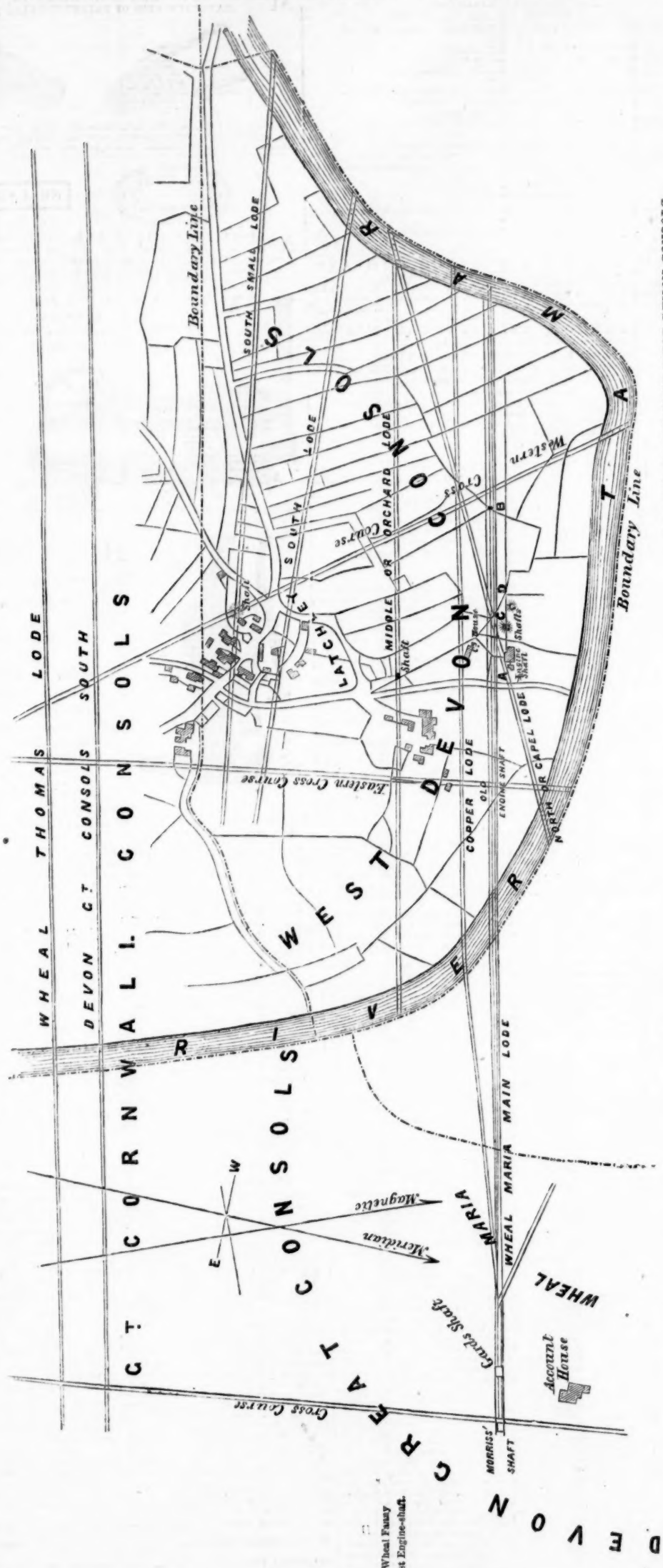
That spread of mankind, that desire for comfort, habitual cleanliness, and self-respect, engendered by the elevation of society in modern times, will cause the demand for metals to increase in a compound ratio. The copper and tin miners may from these premises rest assured their arduous profession is founded on a rock in more senses than the literal one, and that they need not relax their endeavours for fear of over-supply or competition, but still persevere in exploring their property, to their own advantage and their country's prosperity.

GEORGE HENWOOD.

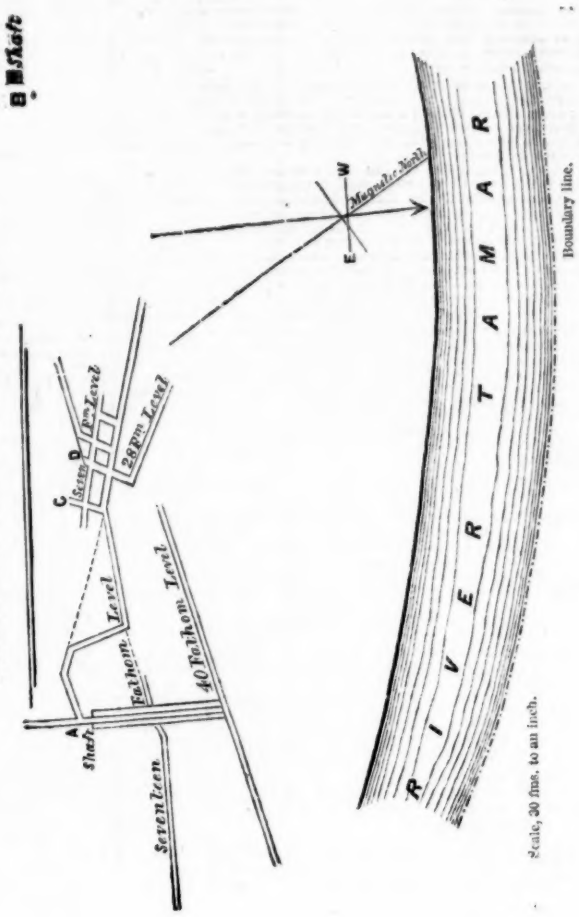
SPARGO'S NEW MAP OF CORNWALL.—We have just been favoured with a copy of Mr. Spargo's map, an advertisement of which has previously appeared, and will now be found in our columns. Mr. Spargo has filled an hiatus and supplied a desideratum long felt amongst the mining community—a map devoted to practical mining utility, a sort of *vade mecum*, sufficiently explicit without being confused, and sufficiently large without being cumbersome. In these particulars we think Mr. Spargo has been eminently successful. In its mounted state it forms a most elegant and useful article for the office of a mine, a broker, or the library of an investor; in the neat case with which it is provided it becomes a requisite. Now that the Cornwall railway is complete the traveller will find in it an instructive companion. The map is divided into hundreds and parishes by lines printed in different colours; the geological features are indicated by hand colouring, an expensive but necessary process; these are again subdivided into mining districts, bearing their generally received appellations; within these are labelled the various ores known to be produced in the different localities, so that on a mine being named, the district can be referred to, and the enquirer is at once informed of the surrounding products. Care has been taken not to insert a redundancy of names, usually so embarrassing, and wholly irrelevant to mining; opportunity is thereby afforded the purchaser of inserting any name of a mine he pleases by way of memento and reference. The map is indeed what it pretends to be, a useful and comprehensive reference for mining, and all parties engaged therein. It is got up with considerable expense and great elegance at an extremely moderate price, displaying considerable tact in the mechanical arrangement, as well as a perfect acquaintance with the physical properties of the subject. Mr. Spargo, we trust and expect, will receive an extensive patronage from those he has evidently exerted himself to serve, and we hope, in his instance at least, so worthy an endeavour will meet its due deserts.

COAL MINERS' GRIEVANCES.—At a meeting of coal miners recently held at Wosbordale, near Barnsley, a petition to the House of Commons has been agreed to, in which legislation as to several matters concerning mines is prayed for. The miners desire an eight-hours bill, and that the machinery for raising coals should only work nine hours; that children under 14 years of age employed in mines should only work half time; that owners should be obliged to provide good school instruction for the remaining four hours; that the adoption of the safety-cage, and such other scientific appliances as may from time to time be shown to be capable and necessary to prevent the sacrifice of life, should be rendered compulsory; that a fund should be provided (by a tax of one farthing per ton on all coals sold) to support the widows and orphans of those who may lose their lives in the pit, for the education of their children, and for the establishment of a Miners' Home for those who are disabled; and, finally, that the apprenticeship system should be introduced into mines.

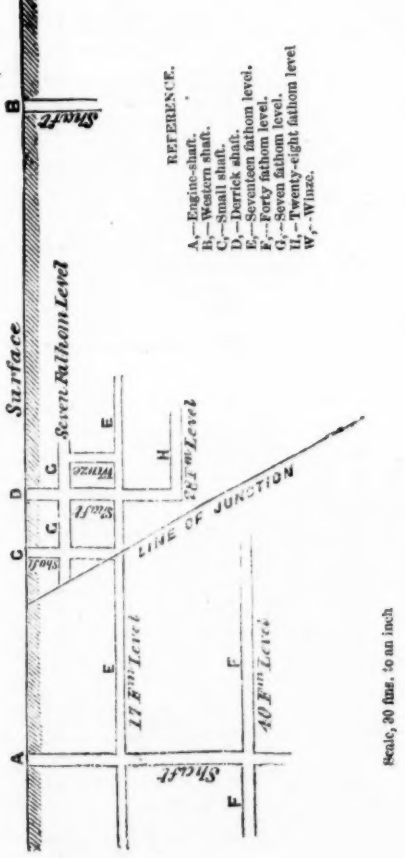
PLAN OF WEST DEVON CONSOLS, AND PART OF DEVON GREAT CONSOLS MINING SETTS.



HORIZONTAL PLAN OF WEST DEVON CONSOLS.



LONGITUDINAL SECTION OF WEST DEVON MAIN LODE.



WEST DEVON CONSOLIDATED COPPER MINING COMPANY (LIMITED), CALSTOCK, COUNTY OF CORNWALL.

In 30,000 shares of £1 each.

Deposit of 5s. per share to be paid to the bankers of the company on application.

Not more months to intervene between each call. No call to exceed 2s. 6d. per share.

All liability to cease on payment of £1 per share.

DIRECTORS.

RICHARD BAGNALL, Esq., Cliff Hall, Tamworth.
THOMAS COTTERELL, Esq., 50, Eaton-square, London.
THOMAS ELD, Esq., Pool Hall, Market Drayton, Salop.
EDWARD SHIRLEY KENNEDY, Esq., Boyne Grove, Maidenhead.
JOSEPH WILSON, Esq., South Castle-street, Liverpool.
THOMAS WINKWORTH, Esq., Canonbury, London.

BANKERS—The Commercial Bank of London.

SOLICITORS—Messrs. Crosley and Burn, 34, Lombard-street, City.

SECRETARY—Mr. William S. Trotter.

OFFICES,—No. 1, GREAT WINCHESTER STREET, BROAD-STREET, E.C.

PROSPECTUS.

The mine is situate immediately adjoining on the western boundary of the Devon Great Consols, the directors of which mine, in their Fourteenth Report, dated May 25, 1858, declared dividends to the amount of £61,440, independent of the outlay of considerable sums in other works; and stated that the copper ore returned within the last thirteen years amounted to £1,650,860 8s. 11d., and that dividends to the amount of £616,448 had been paid to the shareholders.

The workings of the West Devon Consols are within 50 fms. of the Devon Great Consols main shaft, and on the same lodes and strata, with every possible prospect of being equally productive.

Two hundred and fifty tons of copper ore have already been returned from the shallow levels, and the Devon Great Consols lodes traced direct from that property through this sett.

Capt. James Richards, the present mining captain and agent of the Devon Great Consols, has undertaken to superintend the workings of the West Devon Consols, after having duly inspected and reported on the same. The following is an extract of his report:—

"I am of opinion that the further prosecution of this mine should be carried out in the following manner:—That the present engine-shaft on the north lode be continued, and on reaching the respective depths of 40, 52, 64, and 76 fms., levels be extended both east and west, for the purpose of proving this lode, which so well deserves an effectual trial. That the sinking the old shaft 90 fms. to the west of the engine-shaft be resumed, and levels extended therefrom, the water from which can be drained by means of a line of rods attached to the present steam-engine. The middle lode shaft should also be sunk, and levels extended both east and west, at the same depths as advised above. The south lode should also be developed in a similar manner. 250 tons of copper ore, of rich quality, have been raised and sold. There is on the mine a 46 in. steam-engine, with a line of rods to the middle and south lode shafts, two capstans and shears, one rope, two horse-whims and rope, together with an account-house, smiths and carpenters' shops, saw-pit, &c., and a quantity of spare materials; and the machinery and pitwork generally are in good repair, and work well. In conclusion, I have to observe that—looking at these masterly lodes in the immediate neighbourhood, and embedded in the same mineralised killas, as that of the Devon Great Consols, and the fact of there being two cross-courses running throughout the entire width of the sett, in connection with which the best courses of ore are found—if my recommendations are carried into effect, the West Devon Consols will not only become a productive but a profitable mine."

"*Devon Great Consols.*—About the time of the commencement of the last working, I gave a detailed report of the extent and nature of the operations of this mine, and believing that the indications at surface and the character of the lodes underground were exceedingly promising, I expressed my opinion that if properly prosecuted it would prove productive. Since the date of that report the engine-shaft has been sunk some fathoms, and a few of the levels have been somewhat extended; but as the operations altogether have been on too limited a scale to justify the expectation of important results, I see no reason whatever to alter in the slightest degree the opinion I then gave, that on having a fair trial this will not fail to prove a profitable mine.

JAMES RICHARDS, Managing Agent at Devon Great Consols."

And which report is further borne out by Captain Jehu Hitchins, mining surveyor, a person of considerable eminence, and well-known in the mining world. The following is an extract from his report:—

"*March* 5, 1859.—On reading the reports of Capts. James Richards and Rowe, I fully agree with their general tenor, in supposing that this property (West Devon Consols) is a valuable one, provided a proper amount of capital, such as it requires, and which it has not yet had, is properly laid out therein. The work already done in sinking shafts and

driving levels is so much accomplished both in labour and time; and the machinery on the premises, together with a good plant of materials, which have cost a considerable sum, are so many auxiliaries towards a complete trial. Beyond the foregoing, I do not see the necessity for further remark, other than to give an estimate as required, of what I think is a sufficient amount to give this adventure a fair and sufficient exploration. I consider that to develope the main lodes to a depth of 75 fms. with levels, &c., as also trials on the others to a fair extent, can be accomplished with a capital of £10,000, if well and economically applied, during the expenditure of which no doubt but returns of copper ore will be made from the workings, so as considerably to aid the funds of the company at least, and more probably arrive at a profitable result; the outlay of which both the reports alluded to fully advocate, with which I also not only agree but confidently advise, as I believe that it is a good adventure. JEHU HITCHINS."

Capt. Thos. Gill, who has been the mineral agent for the Duchy of Cornwall for the last seven years, but left to take a more lucrative situation in Cuba, and who is now the managing agent of Great Wheal Vor Mine, and is considered by the Duchy of Cornwall as an authority of considerable eminence, also examined this mine during the period he was employed as Duchy Surveyor. The following is extracted from his report to the directors of this company:—

"This property is bounded on the east by the eastern side of the Tamar River, adjacent to the Devon Great Consols Mine, and a continuation of the same lodes of that valuable mine must pass through it. Many attempts have been made to fully develope the lodes, but without success—partly from want of capital, and other causes. The deepest part of the mine is not more than about 32 fms. perpendicular from surface, therefore it is not general to suppose that large and regular deposits of ore can be expected at such a shallow depth (except in extraordinary cases) where there are such large lodes as those in this property; and I am of opinion that if those lodes are explored to a proper depth they will prove very productive, and yield great profit to those who may invest money in the speculation, if carried on in a spirited manner, together with judicious management. THOS. GILL, late Mineral Agent to the Duchy of Cornwall."

The directors state that this company being registered under the Limited Liability Act, the shareholders are in no way responsible or liable, and can sustain no further loss than the money invested by them, being £1 per share, which may ultimately realise a considerable profit. The plan of this property will show the relative position of the two mines, Devon Great Consols and West Devon Consols; and, if any reliance can be placed upon the highly respectable agents, Messrs. Richards, Gill, Hitchins, and others, there can be no doubt that the West Devon Consols must be a good and lasting mine, and a profitable investment to the shareholders.

Applications for the remaining shares to be made to the secretary, 1, Great Winchester-street, Broad-street, E.C. 172

SIDNEY COVE TIN AND COPPER MINING COMPANY (LIMITED).

BREAGE, NEAR HELSTON, IN THE SOUTH-WEST OF CORNWALL.
Incorporated by Act 19 and 20 VICT., cap. 47.
Capital £16,000, in 8000 shares of £2 each, paid-up.
BANKERS—Messrs. White and Co., Haymarket, S.W.
SOLICITOR—T. J. Stubbs, Esq., 46, Moorgate-street, E.C.
BROKER—Thos. Smith, sen., Esq., Stock Exchange, and Copthall Chambers, Throgmorton-street, E.C.
SECRETARY—Charles Pearson.
OFFICES,—8, NEW BROAD STREET, LONDON, E.C.

The favourable situation, exposition of ore, and other advantages, combine to render this one of the mineral prizes of Cornwall. Having been already profitably worked, and only discontinued on the death of the chief proprietor, the renewal of operations is entirely divested of risk. The ore from the shallow levels, only 8 and 16 fms. deep, contains from 15 to 20 per cent. of fine copper, and there are three lodes from which large quantities can be at once raised upon setting the mine to work again. Six of the oldest mining captains and surveyors of the neighbourhood, whose reports are given in the prospectus, have declared the certainty of success by erecting a 60 to 70 in. cylinder engine, with necessary pumping and crushing gear. The lease is for 21 years, at only 1-18th royalty. The board of directors, as will be seen by the prospectus, is unexceptionable.

For further particulars, prospectuses, applications for shares, apply to the SECRETARY, at the offices of the company; or to THOMAS SMITH, sen., Esq., of the Stock Exchange, and Copthall Chambers, London, E.C. 173

GREAT WHEAL MARTHA MINING COMPANY

(LIMITED).—Capital £10,000, in 10,000 shares of £1 each.
Incorporated by Act of Parliament, 19 and 20 Vict., cap. 47, sec. 4, 5.

DIRECTORS.

Colonel CROFT, Club Chambers, Regent-street.
Lieut. W. S. BRADLEY, R.N., Torcross, Devon.
J. H. PEEL BLAND, Esq., Coinbrook.
J. G. WILSON, Esq., M.D., Raby House, Bath.
THOMAS RETIGAN, Esq., Cross-street, Manchester.
SAMUEL PEAKE, Esq., Graham-street, Eaton-square, Pimlico.
JAMES WRIGHT, Esq., C.E., 21, New Bridge-street, Blackfriars.
BANKERS—Unity Bank, Cannon-street.
CONSULTING ENGINEER—Josiah Hugo Hitchins, Esq.
AUDITORS—Messrs. William and Arthur Cooper, 13, George-street, Mansion House.
SECRETARY—F. S. Hemming, Esq.
OFFICES,—No. 23, MOORGATE STREET, LONDON.

A favourable arrangement has been made for the right of working the Great Wheal Martha Mines under a grant from the Duchy of Cornwall, at 1-15th royalty.

It is the opinion of nearly all the engineers and mineral surveyors who have inspected this property that the lodes of the celebrated Devon Great Consols Mine will be found to run through this sett, and which, if proved, would at once raise the company's shares to a high premium. The rich lode in the Devon Great Consols was discovered in 1843, since which time the fortunate shareholders have for every £1 share realised above £1000; every £1 share having received £646 in dividends, and they are now saleable for £470 each.

Great Wheal Martha prior to the year 1843 belonged principally to Mr. Muskett, M.P. At his death, in the above year, it fell into the hands of other parties, who failed in developing the mineral value of the property from inadequacy of capital; since which time, from a variety of circumstances, these much-coveted mines have been in abeyance. During the former workings a shaft was sunk to the depth of 40 fathoms, to cut a strong champion lode, which would have been intersected at the shaft at about 35 fms. deeper; from this lode, at shallow levels, a large quantity of ore was raised. Men who formerly worked in the mine state that a man and a boy broke 80 tons of ore in five weeks in the back of the 10, and it is the universal opinion that this lode will make abundance of copper ore in depth. The standard of copper at that time was very low, being then 89, and it is now 141, so that large quantities of ore which would then not pay would at the present time leave a good profit. As a proof of this, it is well known that hundreds of tons of ore have been carted away and sold from the old rubbish heaps since the mines have stopped working. Independent of this lode, it has been proved that there are four other lodes running to the north, which are untouched; that, all points considered, the geological formation, the proximity of the Devon Great Consols, the value of the lode already worked, with the prospect of riches in those unworked, it must be obvious to all acquainted with mining investments that this is a property rarely to be met with, unless at very exorbitant premiums.

The shares are limited to £1 each, of which 5s. per share has to be paid on allotment, and the remainder by small calls as the works progress.

REPORTS.

From Josiah H. Hitchins, Esq., the discoverer of the Devon Great Consols and East Russell Mines:—

Twistock, March 11, 1859.—The Great Wheal Martha was worked many years since, and returned large quantities of copper ore, but notwithstanding which the working of the mine and developement of its resources cannot be said to have been anything like so fully and satisfactorily effectual as the encouraging appearance and prospects warranted. The workings were not carried to any greater depth, I believe, than 40 fms., and from what I have been told by some of the miners who last worked in the mine, and whose statements are to be relied on, I believe that there is now available between the 10 and the bottom level a good deal of ore ground that will at the present price of copper pay well for taking away. I have on former occasions said, and I still say, that I am of opinion the Wheal Martha sett is just in the position to take the Devon Great Consols lodes—that is to say, more particularly the northern portion thereof. Considering the available ore ground referred to, and the comparatively little done in the way of developing and realising the resources of this mine, I can have no objection to recommend it as being a desirably encouraging speculation. J. H. HITCHINS.

To the Secretary. Consulting Mining Engineer to the Devon Great Consols.

P.S.—You will please to allot me 100 shares.

Feb. 1, 1859.—I some years since examined this property, the extent of which I am informed is over 500 fms. from north to south, and about 460 fms. from east to west, on the run of five ascertained regular lodes, being continuations of the celebrated Devon Great Consols, as far as can be ascertained without actual driving thereon, offering a sufficient area for mining operations on an extended scale. From my knowledge of the locality, and what I saw and was informed, I am decidedly of opinion that I am fully justified in recommending this as a speculation, if carried out regularly, with energy, fair economy, and ability, capable of becoming an undertaking of more than ordinary character.

Signed, JEHU HITCHINS.

Extract from a letter from Mr. Nicholas Ennor:—

Feb. 12, 1859.—When we look at the situation, stratification, and the character of the lode, with the quantity of copper already obtained at so shallow a depth, I think all must agree that the mine is well deserving a further trial, and particularly so under the present standard.

Signed, NICHOLAS ENNOR.

The directors have secured the services of the eminent Mr. Josiah H. Hitchins as their consulting engineer.

The majority of the shares have already been taken up by private parties, and the remainder are offered to the public.

Prospectuses, with full particulars, can be had at the company's offices.

FORM OF APPLICATION.

To the Directors of the Great Wheal Martha Mining Company (Limited).

GENTLEMEN,—I request that you will allot me shares or a less number in your undertaking, and I engage to accept the same, and pay the deposit of 5s. per share when required.

Name .....
Profession .....
Dated 1859. Residence 174

GREAT WHEAL MARTHA MINING COMPANY (LIMITED).

NO APPLICATIONS FOR SHARES will be RECEIVED after the 29th inst. 175

Published on March 1, price 6d. per copy, or 6s. annually—No. V. of

THE MINING REVIEW, AND MONTHLY COMMERCIAL RECORD.

The chief object of this publication will be to furnish shareholders, capitalists, and the public with reliable information relating to Mining, Railway, and other Commercial Securities, together with statistics and general observations of utility to investors.

No. 2 will contain:—

List of Dividends Paid by Cornish and Devon Mines during the past 12 years.
Weekly Review of Business Transacted in Cornwall during the month.
Daily Record of the Share Transactions in the best Dividend and Progressive Mines.
Leading Articles on Cornish and Devon Mining Enterprise and the Cost-book System.
Compendium, giving a detailed description of the Basset, South Frances, Old Tolgus United, South Buller and West Penstruthal, Buller and Basset United, West Grenville Besors, and North Downs Mines.
Monthly Commercial Record.
Prices of Railway Stock.
Sales of Copper and other ores, with a mass of valuable data and useful information.

Published at the offices, 19, Great St. Helens, London, and to be had of all newsvenders. 176

STEAM BOILER ASSURANCE COMPANY,

MARKET STREET, MANCHESTER.
Registered pursuant to Act 7 and 8 Vict., cap. 110.
Capital £50,000, with power to increase to £100,000, in shares of £10 each.

TRUSTEES.

THOMAS BAZLEY, Esq., M.P., Manchester.
J. ASPINALL TURNER, Esq., M.P., Manchester.
W. CUNLIFFE BROOKS, Esq., Banker, Manchester.

DIRECTORS.

BENJAMIN FOTHERGILL, Esq., Market-street, Manchester, Chairman.
WILLIAM M'NAUGHT, Esq., Royal Exchange, Manchester.
JAMES LEEMING, Esq., Water-street, Manchester.
CHARLES J. GALLOWAY, Esq., Knot Mill, Manchester.
JOHN HAWORTH, Esq., Thorncliffe, Old Trafford.

BANKERS—Messrs. Cunliffe, Brooks, and Co., Manchester.
SOLICITORS—Messrs. Sale, Worthington, and Shipman, Manchester.
AUDITORS—Messrs. Child, Fitzgerald, and Taylor, 63, King-street, Manchester; Mr. C. H. Minchin, 59, King-street, Manchester.
CHIEF ENGINEER—R. B. Longridge.
SECRETARY—Jonathan Cox.

This company makes good all losses arising from explosion of steam boilers, including in one premium efficient inspection and insurance.

The engineers of the company also indicate the engines of the insured, and give advice on the economical use of steam power. 177

STEAM BOILER ASSURANCE COMPANY.

HEAD OFFICE, MARKET STREET, MANCHESTER.

The company are now ISSUING POLICIES for the INSURANCE of STEAM BOILERS, MACHINERY, BUILDINGS, and LIVES. Prospectuses and forms of proposals may be had on application. J. COX, Sec.

THE OAKAMOOR AND STANTON MINING COMPANY (LIMITED).

Registered pursuant to the Joint-Stock Companies Acts, 1856-57.
Capital £50,000, in 50,000 shares of £1 each (of which 40,000 only will be issued at present). 5s. per share payable on allotment.

PROVISIONAL DIRECTORS,

ROBERT JACKSON BUTLER, Esq., Alton Towers, Staffordshire.
JOSEPH NADIN, Esq., Burton-on-Trent.
JOHN SMITH RICHMOND, Esq., Lime-street, Liverpool.
Alderman RICHARD BIDDLE, Nottingham.
HENRY MOSES WOOD, Esq., Nottingham.
THOMAS WESTON, Esq., Tean, Staffordshire.
(With power to add to their number.)

BANKERS—Messrs. Glyn and Co., London; Messrs. Charles Harvey and Son, Longton, Staffordshire Potteries.
SOLICITOR—Mr. Edward Daniel, Cheadle, Staffordshire.
SECRETARY (pro tem.)—Mr. Edward Daniel, Cheadle Staffordshire.
BROKERS—Messrs. Watson and Bennett, Royal Exchange, London.
CONSULTING ENGINEERS—Messrs. Woodhouse and Jeffcock, Midland-road, Derby.
MANAGING AGENT—Capt. Richard Nineas, of the Ribden and Dale Mines.
REGISTERED OFFICE,—HIGH STREET, CHEADLE, STAFFORDSHIRE.

PROSPECTUS.

The properties are adjacent to each other, and are respectively situated in the several townships of Cotton and Stanton, in the northern division of Staffordshire. They are held under leases for 21 years (17 and upwards unexpired), which are binding on the inheritance, and were granted by the late Bertram Arthur, Earl of Shrewsbury, under the leasing power vested in him by Act of Parliament 6 and 7 Vic., cap. 28, sec. 40, subject to a minimum rent of £10 per annum, and to the following royalties—6d. a ton upon ironstone and coal, and 1-15th upon copper and lead ores.

The objects for which the company is established are "searching for and raising all metallic ores and coal, rendering the same merchantable, and selling and disposing thereof, with power to erect all requisite machinery and buildings for efficiently working the same, and to purchase and lease lands and other hereditaments for the like purpose."

The lessees have the most ample powers as to entering lands for the purposes of mining operations, paying merely surface damage, and likewise, as to the erection of all requisite machinery and buildings for efficiently working the mines.

One part of the property, which is situate in the township of Cotton, comprises nearly the whole township (exclusive of the Ribden sett), and extends over an area of nearly 2000 acres. Running in a north-eastwardly direction from the bed of the Churnet on the south-west, this portion of the property is bounded longitudinally by a deep valley, along which, in many parts, may be seen abundant signs of ironstone and coal, both of which have already been proved by the lessees at a very considerable cost. The immediate contiguity of this valley to the ironstone fields at Froghall, and its similar stratification, lead to the conclusion that the quality of its ore will be found of the same high character.

The other part of the property, which is situated in the township of Stanton, comprises about 1250 surface acres; and here, also, a considerable outlay has been incurred in previous years in sinking and cutting. In several parts of the Stanton property veins both of copper and lead appear at the surface, and there are the strongest indications that those are only the leaders to larger deposits. At "Thorswood" in particular, both copper and lead ores have been raised; and the main shaft, cut in the solid limestone, is upwards of one hundred yards in depth, and can be made available for future workings at a moderate outlay.

Both of these properties will be found to possess, in a singular degree, many of the most important conditions necessary to carry on mining operations with economy and success. Both are abundantly supplied with water, which can be made available for working wheels, washing ores, &c., are contiguous to good roads, and have convenient outlets for railway carriage.

On the Cotton estate the North Staffordshire Railway runs up to the very mouth of the valley, through which the ironstone would be conveyed, so that the ore may be loaded into the railway trucks direct from the mines. Great facilities also exist for smelting purposes, if the company should think it desirable to enter into this branch of manufacture. The natural formation of the valley offers excellent sites for the erection of furnaces, which might be supplied with ore on the level of their mouths; in addition to which the abundant supply of limestone from the northern portion of the sett, free under the term of the lease from any additional royalty, offers great advantages for the conversion of the ore.

The undertaking will be conducted under the new laws of limited liability, and the directors will exercise as rigid an economy in carrying on the works as is consistent with a full and rapid development of the property.

Specimens of the copper, lead, and iron ores may be seen at the company's offices.

It is intended at first to issue 40,000 shares only, and to call up the capital thereon by instalments not exceeding 5s. each: the first instalment being paid on allotment; the remaining instalments to be called up at the discretion of the directors, at intervals of not less than six months.

The lessees are under agreement to assign the leases for the benefit of the company, in consideration of receiving in full for the same £2000 in cash, payable by four instalments, extending over a period of 15 months, commencing from the date of registration, and an allotment of 3000 paid-up shares. The lessees agree to take 800 shares, and to pay the calls thereon as required from other shareholders; and also to engage not to transfer the 3000 paid-up shares, or any number of them, for the period of two years from the date of registration, except with consent of a majority of the shareholders.

Plans and prospectuses, with detailed reports from eminent engineers and mineral surveyors, may be obtained at the company's offices, High-street, Cheadle, Staffordshire; from Messrs. WATSON and BENNETT, the brokers to the company; and all communications may be addressed to Mr. EDWARD DANIEL, the solicitor and secretary, *pro tem.*

Cheadle, March 16, 1859.

REPORT.

Midland Road, Derby, March 15.—SIR: In accordance with your instructions, I have examined a portion of the tract of mineral property occupied by the Oakamor and Stanton Mining Company, and beg to submit the result of my investigation. The part to which my attention has been directed is the south-west portion of the Cotton estate, from the boundary near the North Staffordshire Railway, to the Railway from Froghall to Cauldon Low. The main geological feature in this tract is the great carboniferous shale formation (capped with red sandstone), which contains the beds of coal and ironstone found in the district, the latter being of a peculiarly rich quality. My examination commenced at the lower end of the Star Wood, passing up the ravine, on each side of which the sandstone shales and the clay ironstone are developed,—reached the line of the Cauldon Low Railway, thence across the tract to the boundary of the Ribden Copper Mine sett, and down to the Star Valley again, examining the general feature of the country. It appears that coal has been worked many years ago in this district, many remains of soughs, adits, and shafts being found, and it is probable that much now remains to be worked in the tract; but, from its reputed character of being very sulphurous, I do not attach any great importance to the coal. It may be worked for fuel for engines, or other rough uses, where pure fuel is not required, but not for smelting ironstone, or iron mannfacture. In the ironstone I found some strong seams of clay, of an argillaceous description, which, if works are established, would be found useful as a mixture in smelting the principal ores; but the main feature is the hydrate, or hydrated oxide of iron, which is found so rich and abundant in the neighbourhood of Froghall. This ironstone was not visible at the surface, but it appears that it has been found in sinking and boring at a place near the south end of the Star Wood, at a depth of about 40 fms. from the surface, and 23 in. in thickness. I made very particular enquiries of Capt. Niness, by whom the trial was made, and I have do reason to doubt his conclutions. Capt. Niness has furnished me with a section of the sinking and boring, a copy of which is appended to this report. These are the usual geological features of the district, where the rich ironstone is found, and, therefore, it is fair to presume that Captain Niness is correct: this question, however, will easily be put at rest. As soon as the company commence operations, a steam-engine of from 20 to 30 horse-power should be erected here, pumps put down, and the shaft sunk to the stone. This is a simple operation, in a mining point of view, and there are no features of difficulty to encounter. The stone being found here of good quality, a tract of many hundred acres of this valuable mine will be found at a very easy distance from the surface, and will be found, I think, lying very regularly.

Nothing will be more easy than to make a communication with the North Staffordshire Railway, and thence all over the mining tract. The position and direction of these lines of communication, as well as the works necessary for developing the tract, must form the subject of further investigation. In the meantime, there is a fair prospect of a mine of very large extent and great value being opened out.

JOHN THOMAS WOODHOUSE.

Edward Daniel Esq., Oakamoor and Stanton Mining Company (Limited), Registered Office, Cheadle, Staffordshire.

Section of the Sinking and Boring at Oakamoor.

SINKING—Fire-clay, 3 yards; sandstone to adit level, 25 yards; sandstone to below adit level, 18 yards=46 yards.

BORING.—Sandstone below adit level, 4 yards 0 ft. 6 in.; bass ditto, 6 yards 1 ft. 6 in.; red sandstone ditto, 1 ft. 11 in.; mingle bass ditto, 4 yards 1 ft. 6 in.; compound bass ditto, 4 yards; strong bass ditto, 4 yards 1 ft. 6 in.; red ironstone ditto, 1 ft. 1 in.; mari ditto, 1 yard 2 ft. 6 in.; grey rock ditto, 3 yards; stone ditto, 1 ft. 3 in.; grey rock ditto, 3 yards; bass ditto, 4 yards 1 ft. 6 in.; coal ditto, 10 in.; bass ditto, 12 yards; stone ditto, 1 ft. 3 in.=50 yards 0 ft. 4 in.—making a total of 96 yards 0 ft. 4 in. 179

THE OAKAMOOR AND STANTON MINING COMPANY (LIMITED).—NOTICE.

The SHARE LIST is CLOSED, the requisite number having been applied for. The allotment letters will be issued in a few days.

Cheadle, March 24, 1859. By order, EDWARD DANIEL, Sec. pro tem. 180

MESSRS. KNOWLES AND BUXTON, CHESTERF

MANUFACTURERS OF PATENT TUBULAR TUYERES

Ordinary size, 16 in. long, 30s. each; extra ditto, 20 in. long, 35s. each; 22 in. long, 40s. each; extra large ditto, 24 in. long, 45s. each; 1s. each extra Delivered at Chesterfield station. Terms, nett cash quarterly.

HULL FORCE. BEST SCRAP

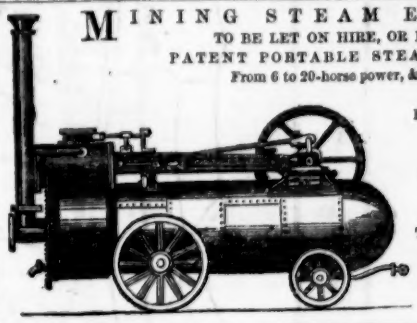
HULL FORGE.

ALLOTT AND THELWALL, HULL FORGE, HUL

prepared to supply RIVET, BAR, NUT, and ANGLE IRON, SMA FORGINGS, USES, &c., made entirely from scrap iron, on reasonable terms shortest notice. The superior quality of the Hull Forge iron is well known brand extensively used where quality is of importance.—Hull Forge, Nov. 6,

MINING STEAM ENGI

TO BE LET ON HIRE, OR FOR SALE,
PATENT PORTABLE STEAM-ENGI
From 6 to 20-horse power, & upwards,



SUITABLE PUMPING, WI AND WORK MACHI GENERAL Apply to T. CRESSWELL, Esq. Blackb WHERE THEY ARE

HALEY'S PATENT LI JACK,

MANUFACTURED BY THE INVE

JOSEPH HALEY,

ALBION STREET, GAYT MANCHESTER.

SCREW JACKS, SHIP JACK

SLIDE AND CENTRE LATHE PLANING, SHAPING, BORING, DR SCREWING, WHEEL CUTTI AND OTHER MACHINE

RIVET MAKING MACHINE

MAPPIN'S ELECTRO-SILVER PLATE & TABLE CUT

—MAPPIN BROTHERS (Manufacturers by Special Appointment to the are the only Sheffield makers who supply the consumer in London. Their Rooms, 67 and 68, KING WILLIAM STREET, LONDON BRIDGE, contain by far the STOCK OF ELECTRO-SILVER PLATE and TABLE CUTLERY in the wor is transmitted direct from their manufactory, QUEEN'S CUTLERY WORKS, Sheffi

	Fiddle Pat.	Double Thread.	King's Pat.
12 Table Forks, best quality	£ 1 16 0 ..	£ 2 14 0 ..	£ 3 0 0 ..
12 Table Spoons, best quality	1 16 0 ..	2 14 0 ..	3 0 0 ..
12 Dessert Forks, best quality	1 7 0 ..	2 0 0 ..	2 4 0 ..
12 Dessert Spoons, best quality	1 7 0 ..	2 0 0 ..	2 4 0 ..
12 Tea Spoons, best quality	0 16 0 ..	1 4 0 ..	1 7 0 ..
2 Sauce Ladles, best quality	0 9 0 ..	0 10 0 ..	0 11 0 ..
1 Gravy Spoon, best quality	0 7 0 ..	0 10 6 ..	0 11 0 ..
4 Salt Spoons (gilt bowls), best qu.	0 6 8 ..	0 10 0 ..	0 12 0 ..
1 Mustard Spoon, best quality	0 1 8 ..	0 2 6 ..	0 3 0 ..
1 Pair Sugar Tongs, best quality	0 3 6 ..	0 5 6 ..	0 6 0 ..
1 Pair Fish Carvers, best quality	1 0 0 ..	1 10 0 ..	1 14 0 ..
1 Butter Knife, best quality	0 3 0 ..	0 5 0 ..	0 6 0 ..
1 Soup Ladle, best quality	0 12 0 ..	0 16 0 ..	0 17 0 ..
6 Egg Spoons (gilt), best quality	0 10 0 ..	0 15 0 ..	0 18 0 ..
Complete Service	£10 13 10 ..	£15 16 6 ..	£17 13 6 ..

Any article can be had separately at the same prices.

One Set of Four Corner Dishes (forming eight dishes), £8 8s.; One Set of Four Covers (one 20 in., one 18 in., and two 14 in.), £10 10s.; Cruet Frame (four glass Full Size Tea and Coffee Service, £9 10s. A Costly Book of Engravings, with p tached, sent per post on receipt of 12 stamps.

	Ord. qual.	Medium qual.
Two dozen Full Size Table Knives, Ivory Handles	£2 4 0 ..	£3 6 0 ..
1½ dozen Full Size Cheese ditto	1 4 0 ..	1 14 0 ..
One Pair Regular Meat Carvers	0 7 6 ..	0 11 0 ..
One Pair Extra Sized ditto	0 8 6 ..	0 12 0 ..
One Pair Poultry Carvers	0 7 6 ..	0 11 0 ..
One Steel for Sharpening	0 3 0 ..	0 4 0 ..
Complete Service	£4 16 0 ..	£6 13 6 ..

MESSRS. MAPPIN'S table knives still maintain their unrivalled superiority; blades, being their own Sheffield manufacture, are of the very first quality, with Ivory handles, which do not come loose in hot water, and the difference in price is occasioned solely by the superior quality and thickness of the Ivory handles.

MAPPIN BROTHERS, 67 and 68, King William-street, City, Lo Manufactory, Queen's Cutlery Works, Sheffield.

WINES FROM SOUTH AFRIC

DENMAN, INTRODUCER of the SOUTH AFRICAN PORT, SHERR 20s. per dozen, bottles included. A pint sample of each for 24 stamps. Wine forwarded free to any railway station in England.

(Extract from the *Lancet*, July 10, 1858.)

"THE WINES OF SOUTH AFRICA.—We have visited Mr. Denman's stores, tasted all eleven samples of wine, and have subjected them to careful analysation. Our examination has extended to an estimation of their bouquet and flavour, the acidity and ness, the amount of wine stone, the strength in alchohol, and particularly to their We have to state, that these wines, though brandied to a much less extent than S are yet, on the average, nearly as strong; that they are pure, wholesome, and free from adulteration; indeed, considering the low price at which they are sold quality is remarkable."

EXCELSIOR BRANDY, Pale or Brown, 15s. per gallon, or 30s. per dozen.

Terms cash. Country order must contain a remittance. Crossed cheques, London. Price lists, with Dr. Hassall's analysis, forwarded on application.

JAMES L. DENMAN, 65, Fenchurch-street, corner of Railway-place, Lon

NOTICE TO RAILWAY AND STEAM-BOAT TRAVELL

—ANDERTON'S HOTEL, 162, 164, 165, FLEET STREET. BREAKFA joint, 1s. 6d. BEDS, 10s. 6d. per week. DINNERS from Twelve to eight joint and vegetable, 1s. 6d.; with soup or fish, 2s. TURTLE SOUP AND VE DAILY. TABLE D'HOTE at Half-past one and Half-past five, at Two Shillings A night porter in attendance

Works published at the MINING JOURNAL *office*, 26, *Fleet-street, Lo*

PRACTICAL TREATISE ON MINE ENGINEERING. By G. C. GREENW one vol., half-bound, £2 15s.; whole bound in Morocco, £3 10s. In two vol bound, £3 3.

TREATISE ON IRON METALLURGY. By S. B. ROGERS. £1 5s.

NEW GUIDE TO THE IRON TRADE, OR MILL MANAGERS' TAKERS' ASSISTANT. By JAMES ROSE. 8s. 6d.

TRANSACTIONS OF THE NORTH OF ENGLAND INSTITUTE OF M ENGINEERS. Six volumes; 21s. per volume.

THE COST-BOOK—TAPPING'S PRIZE ESSAY—WITH NOTES AND APPENDIX.

TAPPING'S EXPOSITION OF THE JOINT-STOCK COMPANIES ACT. 6d.

GEOLOGY AND MINING—FOUR LECTURES, by G. HENWOOD, 2s. 6d.: by p

INVENTIONS, IMPROVEMENTS, AND PRACTICE, OF A COLLIERY ENGI AND GENERAL MANAGER. By BENJAMIN THOMPSON. 6s.

TAPPING'S DERBYSHIRE MINING CUSTOMS. 6s.

TAPPING'S HIGH PEAK MINING CUSTOMS. 5s.

TAPPING'S EDITION OF MANLOVE'S CUSTOMS OF THE LEAD MIN DERBYSHIRE. 3s.

PLAN OF VENTILATING COAL MINES. By WM. HOPTON. 3s.

SOUTH WALES INSTITUTE OF ENGINEERS. Parts I., II., and III. 2s. 6d. e

ON COPPER SMELTING. By HYDE CLARKE, C.E. 1s.

LONDON: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (Th prietors), at their office, No. 26, FLEET-STREET, where all communications are to be addressed. March 26,